

# Geologic Resources Division



EXPERIENCE  
YOUR  
AMERICA

## Technical Assistance and Guidance



Presented by Lisa Norby - Annual I&M Meeting - 8/18/03

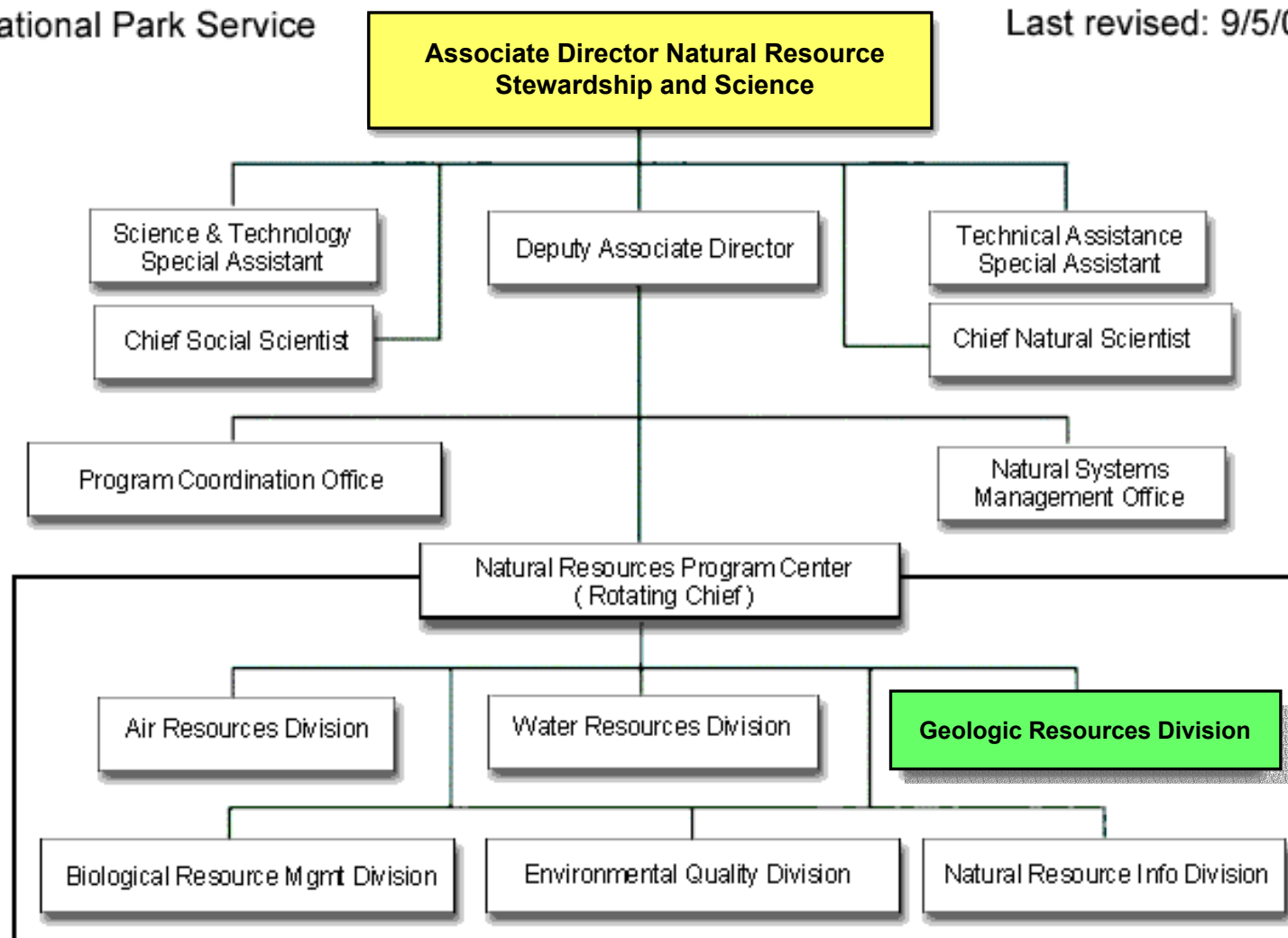


**NRSS  
Directorate**

# Geologic Resources Division

National Park Service

Last revised: 9/5/00



# Geologic Resources Division



GRD  
Organization

## **GEOLOGIC RESOURCES DIVISION** Dave Shaver - Chief

**Planning, Evaluation,  
& Permits Branch**  
- Carol McCoy -

**Education &  
Outreach Branch**  
- Bob Higgins -

**Geoscience &  
Restoration Branch**  
- Jim Woods -

- I & M Program

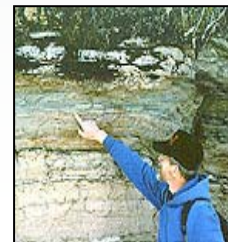
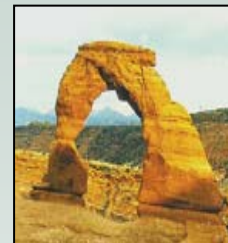


# Geologic Resources Division

## GRD Functions

- Develop NPS geologic resources management program;
- Provide specialized assistance to parks in geology and minerals management; and
- Coordinate development of national level policies, regulations, and guidance.

### GRD Functions



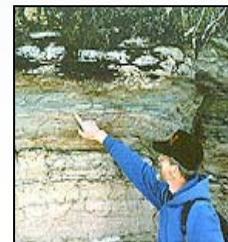
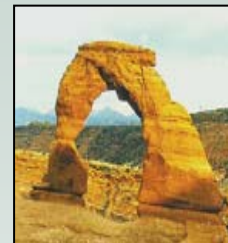


# Geologic Resources Division

## GRD Technical Expertise

- geologic mapping,
- planning, policy, and regulations,
- geohazards,
- disturbed lands restoration,
- caves and karst systems,
- coastal geology,
- paleontology,
- surficial geologic processes, and
- minerals (mining, oil and gas, sand and gravel).

### GRD Expertise







# Geologic Resources Division

## Why Should We Manage Geologic Resources?

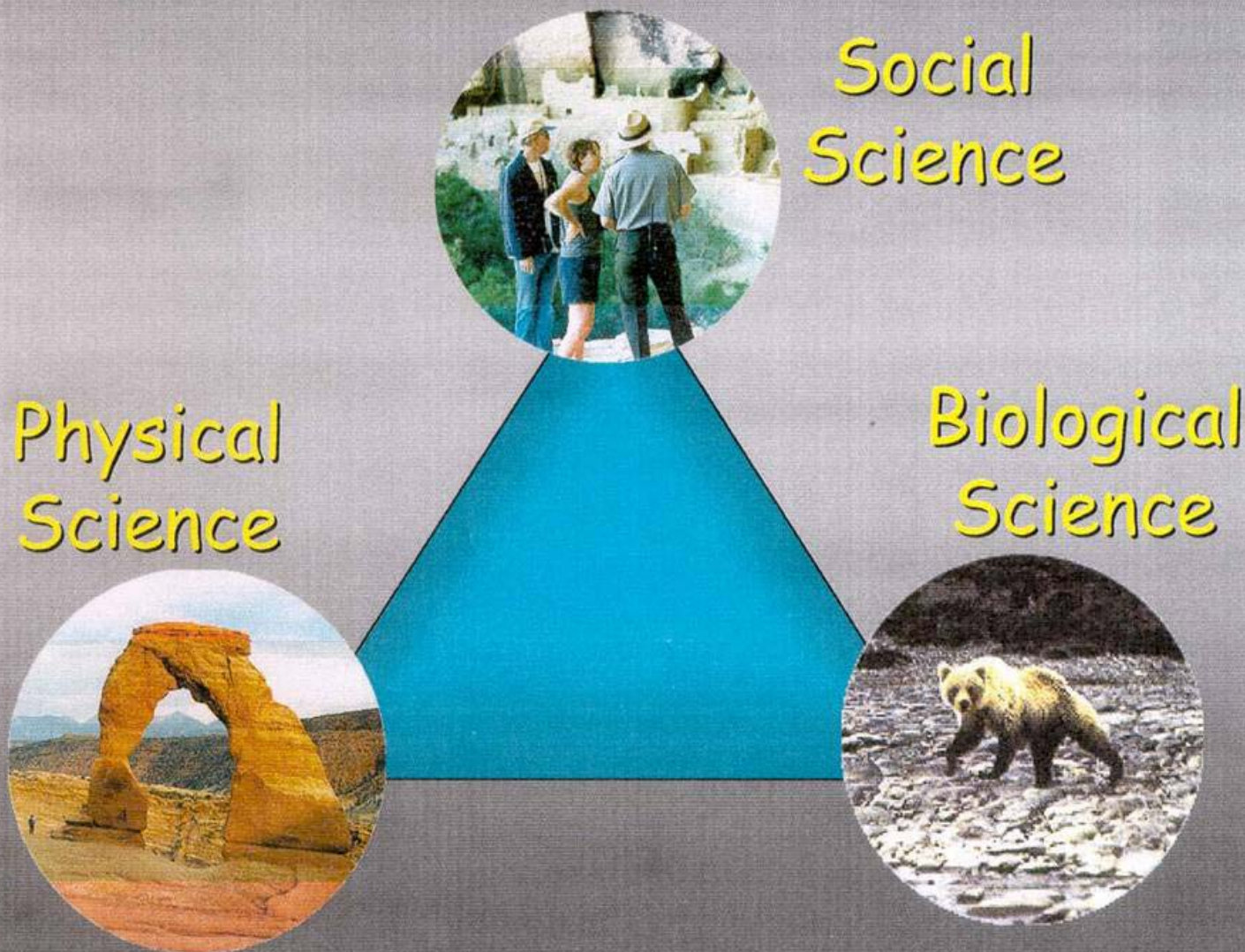
The NPS manages all resources, including geologic resources to fulfill our stewardship responsibilities.

EXPERIENCE  
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# Geologic Resources Division



Ecosystem  
Model

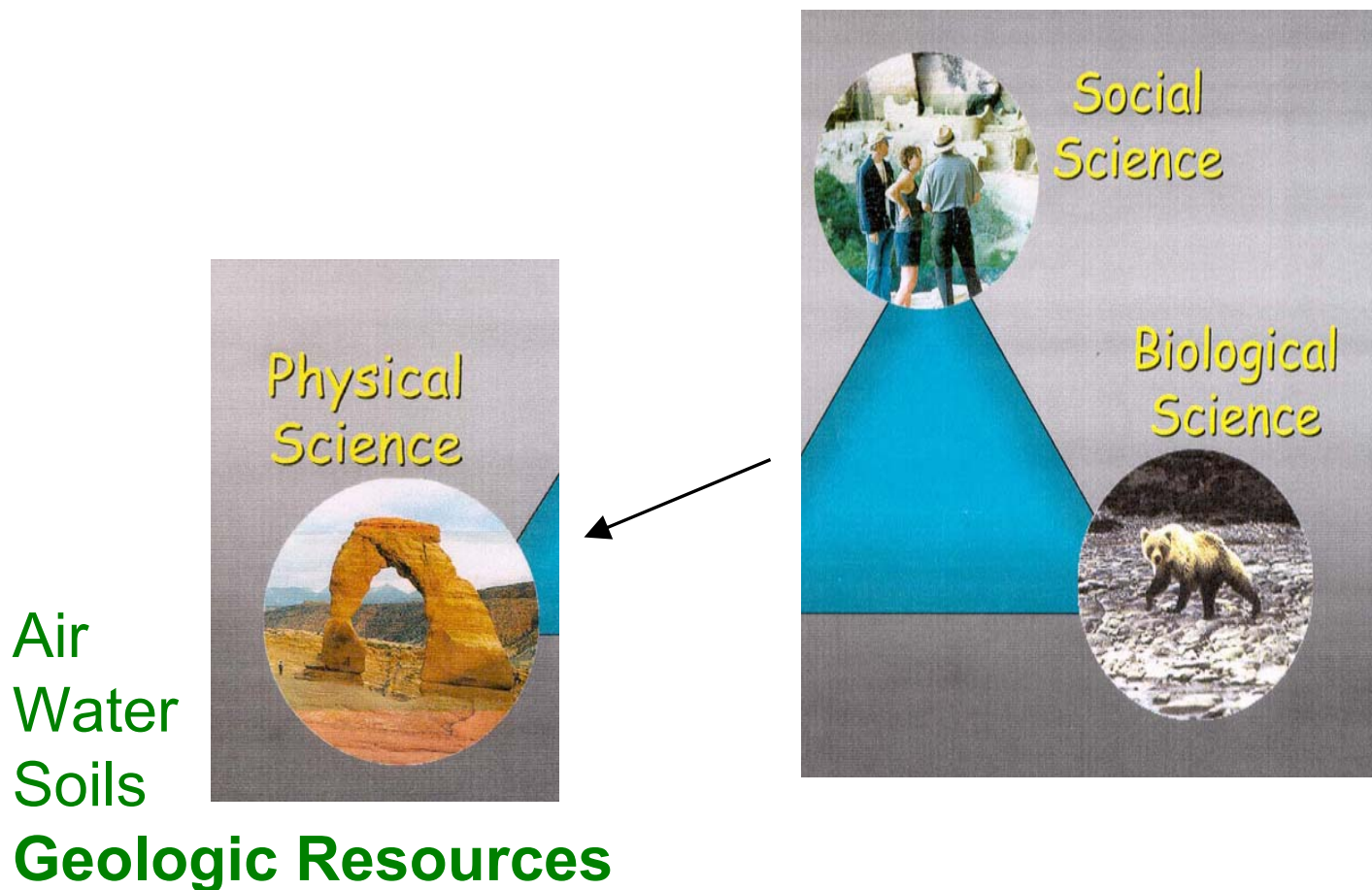




# Geologic Resources Division

## Geology plays a role in ecosystem health

Ecosystem  
Model



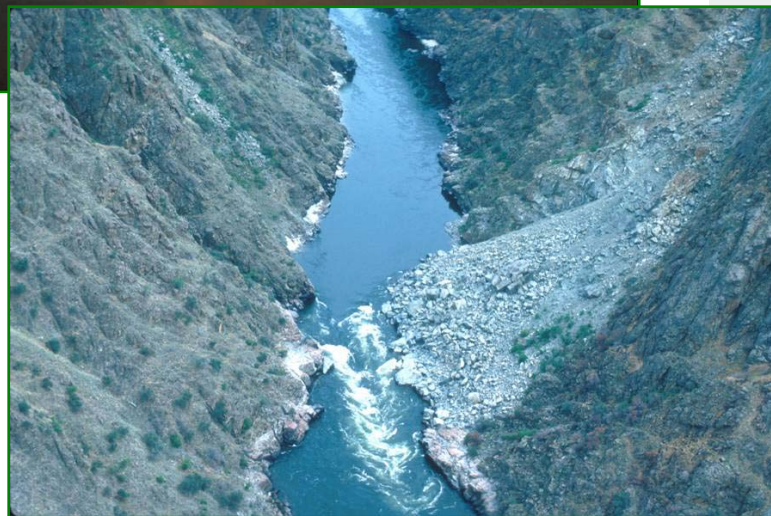
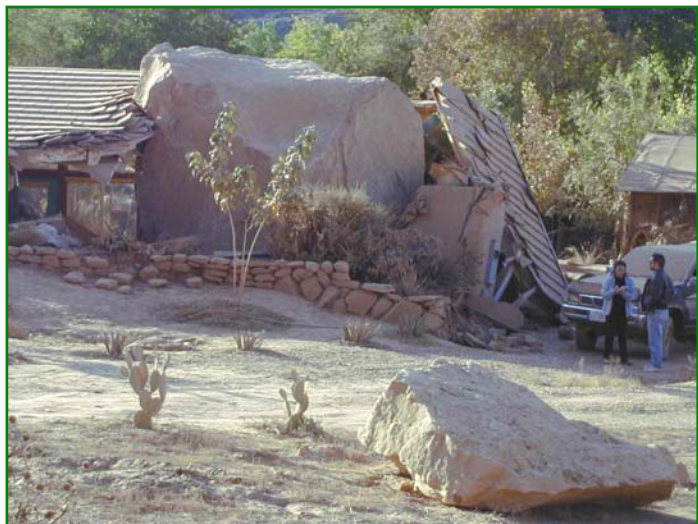




# Geologic Resources Division

Natural processes can affect park resources.

Natural  
Processes

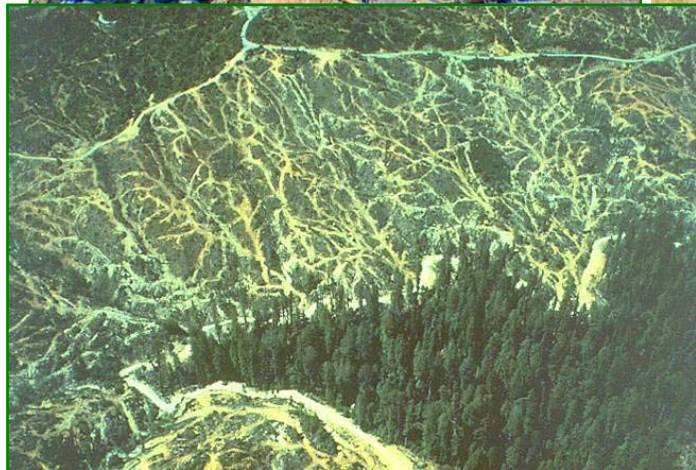




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Human activities can also affect park resources.

Human Effects





# Geologic Resources Division

## Geologic Processes

### **Geologic processes:**

- **shape topography,**
- **impact soil and water chemistry,**
- **influence soil fertility,**
- **influence stability of hillsides, and**
- **control the flow of surface and groundwaters.**





# Geologic Resources Division

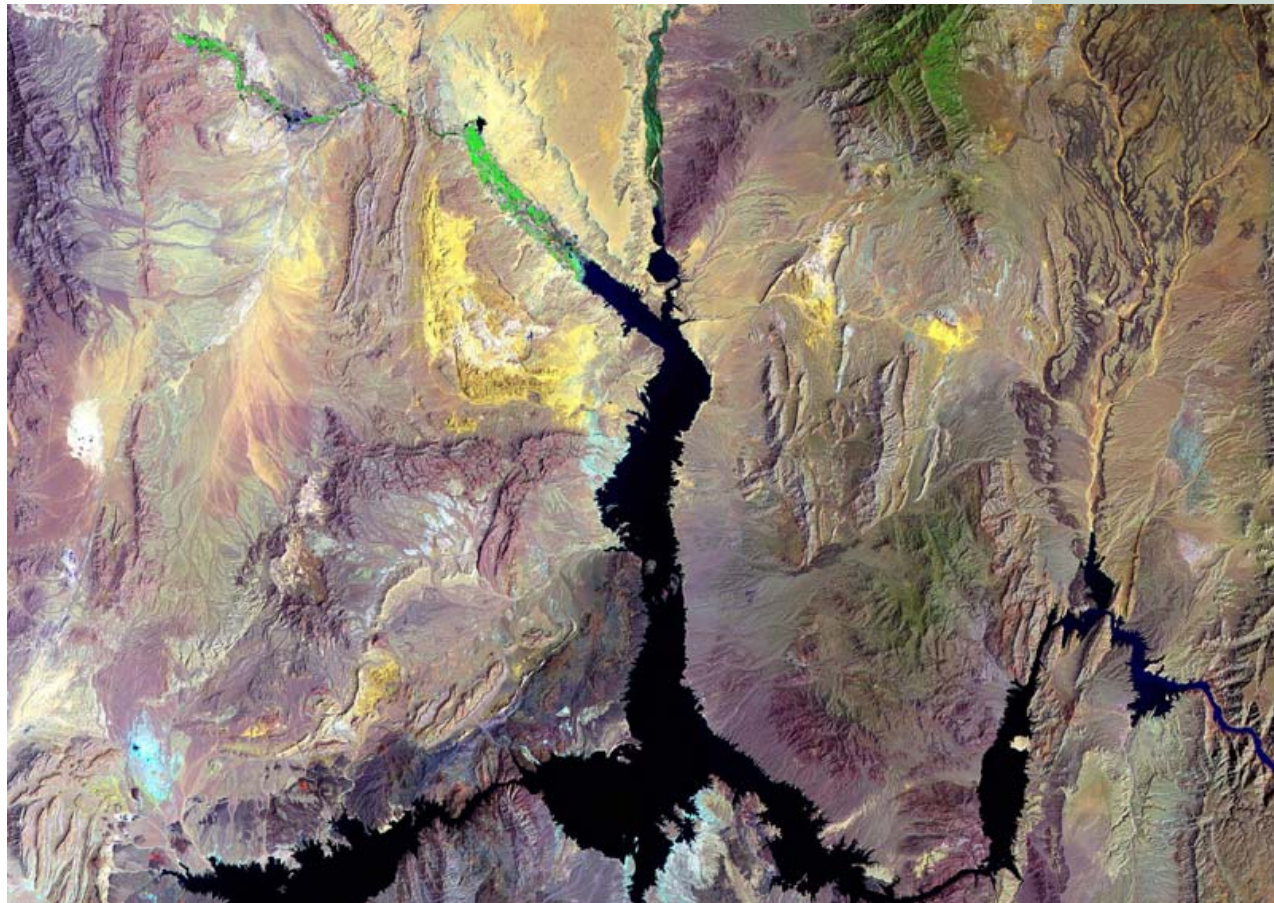
**These processes in turn determine:**

- **habitat distribution,**
- **timing of species reproduction,**
- **productivity and type of vegetation, and**
- **the response of ecosystems to human change.**

# Geologic Resources Division



**California  
Bearpaw Poppy**



- Landsat imagery used to identify locations where poppy grows
- found on gypsum-rich substrates such as LAME



# Geologic Resources Division

GRD  
Technical  
Assistance



GRD Technical Assistance





Technical  
Assistance

# Geologic Resources Division

## Natural Resource Technical Assistance Call

TA requests due to regions in August  
and to WASO on 9/15/03

website: <http://www1.nrintra.nps.gov/tac/tac04/index.htm>

### Types of I&M-related assistance:

- ID park geologic resources (features/processes) and monitoring and research needs,
- Compile and interpret geologic maps (geologic inventories),
- Integrate various inventories for park resource management needs, and
- Locate existing protocols or develop new monitoring protocols.



# Geologic Resources Division

## Geologic Resource Inventories

= Geologic Resource Evaluations

- done for multiple parks within a network or for individual parks on an as needed basis.
- scheduling – based on networks starting phase 1 Conceptual Modeling. Other priorities are based on parks requesting geologic maps or doing GMP planning.

Geologic  
Resource  
Inventories



# Geologic Resources Division

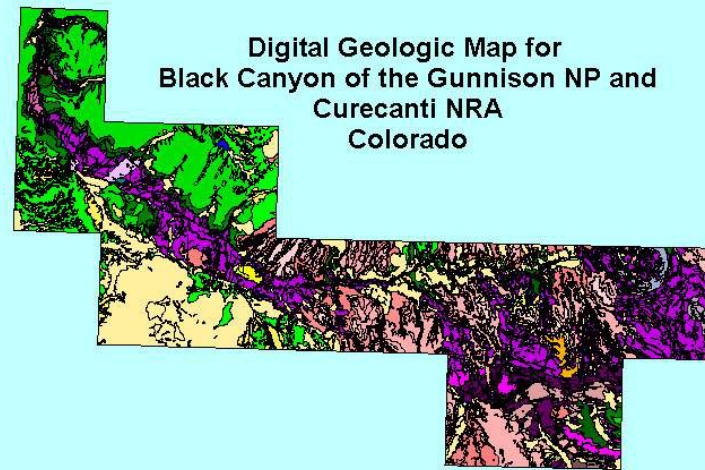
## GRE Purpose and Products

Geologic  
Resource  
Inventories

- ID park-specific geologic features, processes, resource management issues,
- Determine extent of existing geologic mapping in park,
- ID the relationship of geology to other resources (vegetation, cultural resources, T/E species), and
- ID potential geologic monitoring needs.

### Products:

- scoping meeting notes,
- digital geologic map,
- geologic bibliography,
- and GRE report







# Geologic Resources Division

## Geologic Features Condition Assessments (GPRA goal 1A-9)

- starting in FY 2004,
- parks must inventory all geologic features, (on a macro to micro scale), and
- assess the condition of these geologic features.





# Geologic Resources Division

## Geologic Resources Monitoring

Geologic  
Resource  
Monitoring

Geologic resource monitoring \$ = NR Challenge funding

- GRE scoping meetings – identify geologic features/processes that warrant monitoring
- GRD can provide technical expertise developing monitoring protocols or identifying existing protocols
- GRD will develop guidance as part of monitoring technical advisory group (MTAG) – monitoring manual, protocols etc.
- If possible, monitoring should cover multiple resources





# Geologic Resources Division

## GRD I&M Contacts

GRD I&M  
Contacts

- **Chief GRD – Dave Shaver**  
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- **Chief, PEP Branch – Carol McCoy**  
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